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The Nature of the Pension Agreement

Frank Russell Canada Limited, 1987

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Task Force on the Investment of Public Sector Pension Funds

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C O N T E N T S

PREFACE

This paper has been commissioned by Ontario's Task Force on the Investment of Public Sector Pension Funds.

The paper does not, in itself, deal with any of the issues concerning how these pension funds are invested or ought to be invested. Rather, the paper deals with a deeper philosophical question : for whose benefit ought a pension fund to be invested? In other words, who is really the investment client? Unless we know who is the legitimate beneficiary of the investment return, we do not have a context in which to decide what investment arrangements are sensible.

The legitimate beneficiary of the investment return is not clear. Conflicting claims are expressed by employers and employees.

The theory behind this paper is that the legitimate beneficiary in a particular case can only be identified by studying the nature of the pension agreement between employer and employees. Moreover, the pension agreement cannot be studied in isolation, but must be seen as a part of the total compensation paid to employees for the work they do.

Pension agreements take many different forms in Canada. Each agreement is itself complex. Describing all the variants, in all their complexity, is a daunting task - and probably not very helpful.

The approach taken in this paper, therefore, is to build a classification system. The classification is built in several stages. At the initial levels, the classes are very broad. At each stage, sub-divisions are introduced in order to help distinguish some pension agreements from others. Thus the scheme begins as a purely theoretical construct, and gradually moves towards actual practice.

The concepts in this paper represent a synthesis of many views, some expressed over the years by individuals and by groups of people in seminars or in written form, some developed during discussions specifically held to help write this paper. It is impossible to identify all those whose views contributed to the models developed here - and probably invidious too, because nobody was asked whether these models are acceptable.

Ultimately, the models have one main purpose : to clarify the relationship between the pension fund's investment return and the beneficiary. If they clear away some of the murk currently surrounding the subject, the paper will have served its purpose.

D. Don Ezra
Director
Frank Russell Canada

CHAPTER I

BACKGROUND

Purpose of the Paper

In Canada, there are many potential sources of post-retirement income. The Old Age Security pension is available to almost everyone, subject only to a residence condition. The Canada and Quebec Pension Plan benefits are available to those who have contributed to the plans, and to the families of contributors. Then there are occupational pension plans, governed by agreements between employers and employees. In addition, personal savings can be tapped, whether they have been accumulated in a tax-assisted savings vehicle ("Registered Retirement Savings Plans") or by some other means.

This discussion paper is concerned only with occupational pension plans. Its purpose is to consider the nature of the pension agreements between employers and employees.

Nature of the Pension Agreement

Almost always, the nature of a particular pension agreement is something we can only infer. The underlying philosophy relating to a beneficiary's entitlement is not required to be stated in the plan text; and the actual wording of the text is so often over-ridden by subsequent explanations and expectations, that categorical answers as to what was intended are bound to offend many who are affected by them.

The reason for this is that occupational pension plans were originally written, and have for a long time evolved, in an environment when they were of relatively small importance to the parties involved. So it was unnecessary to clarify the governing philosophy, or indeed to give it any thought. But these plans have grown so significantly in their importance, both to the beneficiaries and to the sponsors, and they have assumed so great a social significance, that it now matters very much what was the relevant philosophy in a given case.

Certainly the consequences that flow from different philosophical approaches are themselves very different in their implications. This is particularly true of two of the most contentious aspects of pension plans : for whose benefit the investment return accrues, and who benefits from any surplus.

For example, if in a particular case it is clear that the level of benefits is directly linked to the achieved investment return, whether the return is high or low, then it is only the participants who are affected by the return. In such a case, with both the risks and rewards of investment performance accruing to the participants, they are essentially the clients for whom investments are being made. It is therefore their objectives and tolerances that should determine the investment policy that is adopted. And if the entire investment return is allocated to the employees, then the investment return cannot give rise to any surplus.

On the other hand, if in a particular case it is clear that the level of benefits is divorced from the achieved investment return, whether the return is high or low, then the return is simply a method of financing the benefits, and it is only the plan sponsor who is affected by the return. In such a case, with both the risks and rewards of investment performance accruing to the sponsor, the sponsor is the client for whom investments are being made. It is therefore the sponsor's objectives and tolerances that should determine the investment policy that is adopted. And if the entire investment return is used as a source of financing the benefits, then any surplus attributable to investment performance must accrue to the sponsor.

In practice, it may be that few cases are clear-cut. But these examples show that, in the most fundamental way, it is true to say that investment issues cannot be sensibly resolved until the nature of the pension agreement has been established. It is only then that one can tell who are the people, singly or together, who should logically be responsible for resolving the issues, bearing their own interests in mind.

In the next Chapter we consider the evolution of the pension agreement.

Total Compensation

Before proceeding to it, one further piece of background is required. That is the notion of "total compensation".

The concept is very simple. Basically, it is just an observation of reality. Employees receive compensation for the services they provide. The compensation may take many forms. Most of it is usually direct : wages and salaries.

Some of it may be indirect : vacations, subsidized meals, employer-paid insurance coverage, and so on. Some of it is not only indirect but deferred, that is, the material benefit is not immediately enjoyed by employees : pension benefits are the prime example.

The employer contributes towards each of these forms of compensation, and so the total compensation package of the employees must be evaluated taking into account direct, indirect and deferred compensation.

In some cases, the notion of total compensation may be at the forefront of wage decisions. For example, an employer bargaining with a union may take the position that they are both negotiating a total compensation package, and the employer is indifferent to the way in which that package is divided between direct, indirect and deferred pay : the division is up to the union, expressing the preferences of the employees it represents.

In other cases, the notion of total compensation may never be considered explicitly. Components of direct, indirect and deferred pay may be established in isolation from one another. This does not deny the validity of the notion. Regardless of how the components are established, the fact remains that employers pay employees in many different ways, and employees receive compensation for their labour in many different ways. The sum total of the different ways is what the total compensation amounts to. This holds, even though employer and employees may not have considered explicitly the total value of the package.

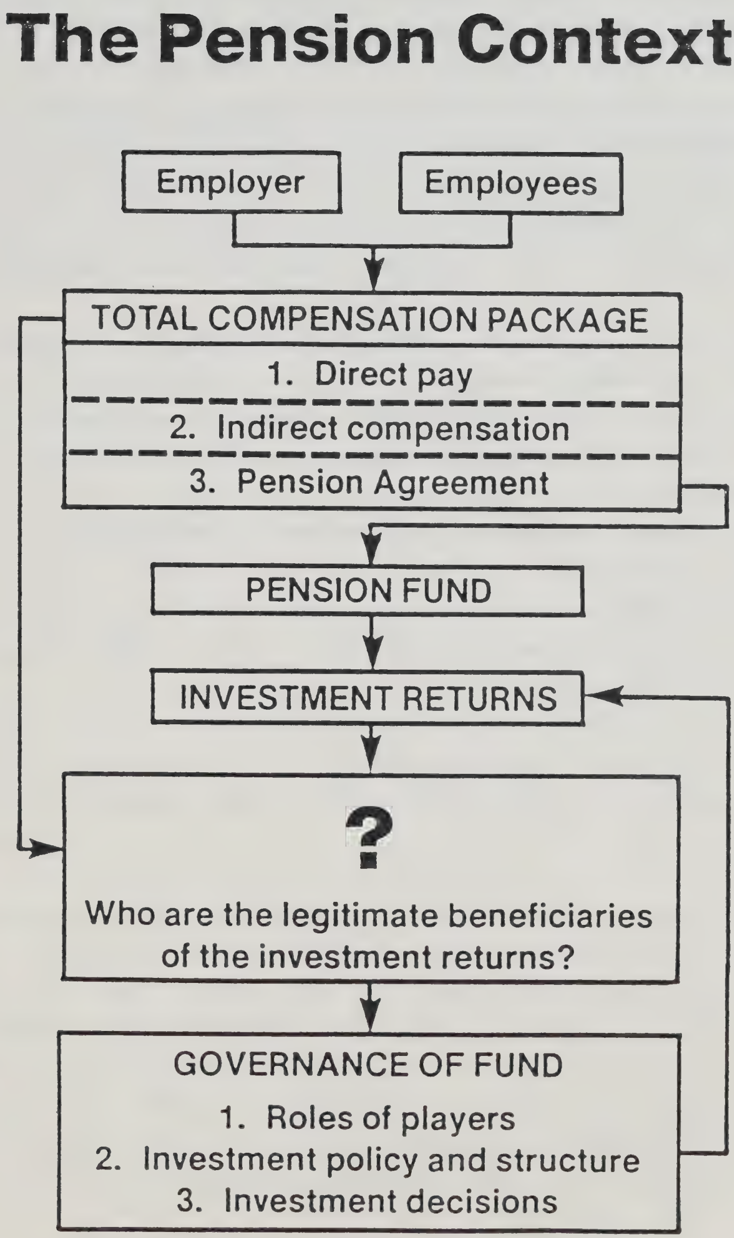
It is not necessary for the value of total compensation to be explicitly defined in advance. All that is needed is that the components of total compensation be clearly stated, so that participants in labour and capital markets can price them. If the components are not clearly stated, ambiguity and confusion are bound to follow, resulting not only in conflicting claims but ultimately in an inefficient allocation of resources in the economy.

The reason why the notion of total compensation is relevant to this discussion is that (as will be seen) it can change what the pension agreement at first sight appears to be. In other words, the nature of the pension agreement must be discussed, not in isolation, but in the context of total compensation. For example, if the pension agreement is considered in isolation, it is well known that in a traditional "defined benefit" plan (explored in greater detail in Chapters III and IV), the employer appears to be the party that gains or loses, depending on the size of the investment return. But if the employer's pension fund gains or losses are transmitted, through other elements of the total compensation package, to the employees, then in fact it becomes the employees who gain or lose from the fund's investment return. Indeed, to the extent that the other elements in the total compensation package are freely substitutable for the pension element, it may be that the design of the pension element is irrelevant in determining whether the employer or the employees benefit from the investment return! However, if there are rigidities in substituting other elements of the compensation package for the pension element, then the design of the pension element has genuine economic consequences. (And even if there is complete substitutability, the design of the pension element has genuine economic consequences in determining how the fund's investment return is divided among employees of different ages and generations.)

Theme of the Paper

We are now in a position to explain the theme on which this discussion paper is based. The theme is shown in Figure 1.

FIGURE 1 -


The Pension Context
Employer
Employees
TOTAL COMPENSATION PACKAGE
1. Direct pay
2. Indirect compensation
3. Pension Agreement
PENSION FUND
INVESTMENT RETURNS
?
Who are the legitimate beneficiaries of the investment returns?
GOVERNANCE OF FUND
1. Roles of players
2. Investment policy and structure
3. Investment decisions

There is a total compensation package, paid by the employer to the employees in exchange for their labour. The package may be bargained or it may be imposed; in either case, both parties are bound by it. The pension agreement is one component of the package, and gives rise to the establishment of the pension fund, which in turn generates investment returns.

In the context of the entire package, the pension agreement sets out the entitlements of the employer and the employees; more particularly, it sets out their claims against the pension fund. These claims should determine the interest that each party has in the fund's return, that is, who is the legitimate beneficiary of the investment return, and to what extent.

These considerations must be resolved before the governance of the fund can be properly established. Governance requires a definition of the roles of the various players (the employer, the employees, other beneficiaries, and outsiders such as trustees and investment managers), as well as a statement of the investment policy (the investment objectives and risk tolerances) and structure (who is to be responsible for which investment decisions).

Within this framework, investment decisions are made, and the resulting investment returns become available for division according to the terms of the total compensation package.

CHAPTER II

GRATUITIES, RIGHTS AND EXPECTATIONS

It is commonly accepted that pensions began as a gratuity awarded by the employer, for long or meritorious service. By the very nature of a gratuity, it was given voluntarily : there were no eligibility conditions, no vesting conditions, no definition of the form of the benefit or its amount.

This concept is crystallized in Dr. Samuel Johnson's definition of "pension" in his Dictionary over two hundred years ago:

> An allowance made to anyone without an equivalent. In England it is generally understood to mean pay given to a state hireling for treason to his country.

The expression "without an equivalent", meaning that there is no quid pro quo, necessarily defines a gratuity. The second half of the definition, while not amounting to a vesting condition, does seem to have some elements of an eligibility condition to it!

But today, whenever an occupational pension plan exists, it is seen as a right. Certainly, once the terms of a pension agreement are written down, the benefit becomes an employee right, subject to fulfillment of the conditions in the agreement.

However, regardless of the legal niceties, employees may feel that they have rights even in situations where there is no written agreement. Typically this would be the case where pensions have been awarded with such regularity that an employee expects a similar award when he or she retires. While there is no tally, these cases must occur sufficiently often for the accounting profession to take notice : the Canadian Institute of Chartered Accountants considers that "a pension plan is any arrangement (contractual or otherwise) by which a program is established to provide retirement income to employees"; in the

U.S., the Financial Accounting Standards Board accords equal treatment "to a written plan and to a plan whose existence may be implied from a well-defined, although perhaps unwritten, practice of paying post-retirement benefits".

A more typical instance arises in the context of occupational pension plans that do have written terms. Surveys show that many employers go beyond the terms and award increases in benefits that the agreement does not call for, particularly aimed at offsetting at least some of the impact of inflation on the pensions of retired employees. While employers emphasize that these "ad hoc adjustments" (as they are often called) are voluntarily given and are not guaranteed to continue, employees often do get the impression that they can expect similar treatment after they retire.

In this discussion paper, the phrase "implicit expectation" is used to describe the situation where circumstances have combined to arouse expectations in the minds of employees, going beyond the terms which the employer is prepared to commit to in writing.

FIGURE 2 -

The Nature of Pensions: Preliminary Classification

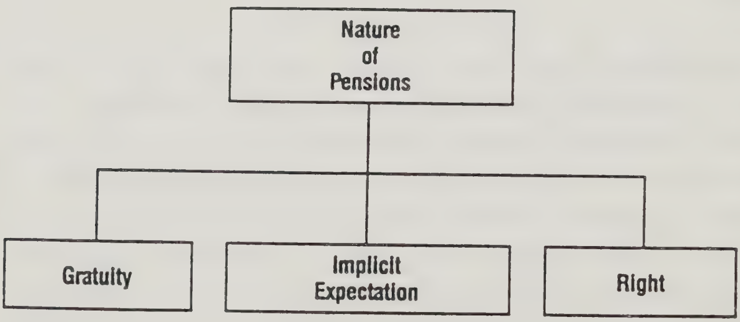


Figure 2 illustrates the three ways of thinking of pensions. Moving from left to right in Figure 2 produces increasing certainty as to whether, and what, pensions will be paid. It is as well to observe, at this early stage of the discussion, that most cases where rights are acknowledged also have a large element of implicit expectation to confuse any clear resolution of the issues.

In the next Chapter we begin to explore how pension rights have been defined.

CHAPTER III

ASSET-RELATED AND LIABILITY-RELATED RIGHTS

Two Extreme Notions

The fundamental question, underlying all others, is whether the pension agreement is asset-related or liability-related. Some would argue that these are the only two possibilities. Others would point to them as the extreme ends of a spectrum of possibilities. Whichever position one adopts, it is important to explain these two concepts. At this stage, we focus first on the pension agreement, even though we know it must be interpreted in a total compensation context.

Asset-Related Pension Agreement

The clearest example of an asset-related pension agreement is a "defined contribution" plan, under which the employer contributes (and possibly the employees also contribute) periodic amounts that are pre-defined into a pension fund. (A typical pre-defined amount might be "5% of basic pay, less the contribution made to the Canada or Quebec Pension Plan.") The contributions are allocated to accounts maintained for each participant, the investment returns earned are allocated to these accounts, and each participant, at retirement, uses the full accumulated amount in his or her account to purchase a pension in a form the participant chooses as being suitable.

But for the example to reflect fully the asset-based nature of the agreement, it would ideally include clear communication of the concept and its implications. Thus the employer should tell the employees that once the contributions are made, the employer has no further obligation; that the size of the pension each employee receives will vary with the investment return earned; that the employees may have different investment objectives and different abilities to tolerate risk, and that therefore each employee can select his or her own investment avenues; that each employee, at retirement, can select either a pension that remains fixed or one which increases at a specified rate

or in proportion to inflation (if such a pension is commercially available), but that once the choice is made, the employee must live with it, without expectation of supplements from the employer.

In effect, a fund is established for each participant, and each participant controls his or her fund, although legally a single fund exists and for convenience there may be only a limited number of investment options. Regardless of who is the legal owner of the fund (usually one or more trustees, or perhaps a life insurance company), the asset-related nature of such an agreement is clear; the assets are, in an investment sense, owned by the participants. Each participant, individually, is a separate investment client.

Such an agreement is entirely consistent with the notion of total compensation. It establishes that, over and above the employee's own contribution, the additional value of the pension benefit, to the employee, is equal to the employer's contribution, discounted appropriately for the possibility of early termination of employment if the employer's contribution does not vest immediately in the employee.

Liability-Related Pension Agreement

In contrast, a liability-related pension agreement is one in which the benefits being promised bear no relation to the size of the assets. Essentially, the employer promises a benefit of a pre-defined size to each employee. (A typical example might be "an annual pension equal to your years of service multiplied by a unit; the unit being 1.75% of your average salary in your five consecutive most remunerative years, less one thirty-fifth of your pension from the Canada or Quebec Pension Plan.")

In its clearest form, the entire pension (whatever its level) would be provided by the employer. The employer would specify, in advance, whether and to what extent the pension, once it commences, will be increased to alleviate inflation. (Thus the employees would have no further implicit expectations, and would realize that the defined benefit is exactly what they can expect.)

Ideally, too, the employer would also guarantee that the benefits would always be fully funded, in the opinion of an independent actuary; that is, the actuary considers that the pension fund always has sufficient money in it to pay for the benefits. (The employees would then not fear that the plan might be wound up at a time when the fund was inadequate, and their promised benefits reduced.)

Under these circumstances, the size of the fund is not a measure of how large the benefits will be; it is only a measure of how well the employer is maintaining his promise to keep the benefits fully funded. Whereas for an asset-related agreement the employees' entitlements are always precisely equal to the assets of the fund (subject to vesting conditions), in a liability-related agreement the employees' entitlements constitute a first charge against the fund assets, but the employees are not entitled to any assets remaining after their entitlements have been met.

It is interesting to ask how such a clearly-defined benefit fits the notion of total compensation.

Certainly it satisfies the conditions laid out in Chapter I. The benefits are explicitly described, without ambiguity. They can therefore be priced, by the employer and the employees and creditors of the employer and investors in the employer's stock. Market conditions may change (for example, investment returns may not turn out to be what market participants expected), and the market may revise its price, but that is the nature of markets. The only essential feature is that market participants must have an unambiguous definition of what it is they are pricing - and that condition is satisfied.

<u>Do Pure Asset-Related and Liability-Related Plans Exist in Practice?</u>

It is certainly possible to design plans in which only the literal terms apply. But the real question is whether, in practice, some element of total compensation gets changed as a result of the pension fund's investment return.

Our impression, after much discussion with sponsors, unions, consultants and academics, is that most people acknowledge that "pure" plans do not really exist.

Consider, for example, a "defined benefit" plan.

Suppose the investment return is lower than the employer anticipated. This means that the employer will subsequently have to contribute more than anticipated for the benefits promised. Will the employer simply accept that he originally mis-priced the benefit, or will he attempt to recover some or all of the additional cost in subsequent negotiations with the employees? Similarly, if the investment return is unexpectedly high, will labour be content to let the advantage accrue to the employer, or will they attempt to secure some or all of the employer's cost-saving in subsequent negotiations with the employer?

To sharpen the focus, a powerful mental experiment was suggested to us. Suppose there are two plans, one with defined contribution wording and one with defined benefit wording. And suppose that we <u>know</u> that investment returns for the next five years (or perhaps ten years) will be zero per cent. In the defined contribution situation, do you feel, deep down inside, that the employer will be uncomfortable and make some other arrangements for employees? If you do, then the plan is not pure defined contribution, and the employer shares the investment risk. Similarly, with the defined benefit plan, ...

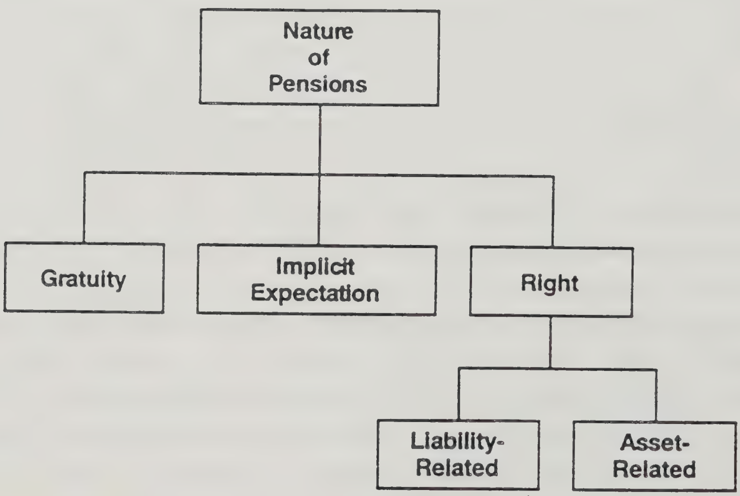
We are speaking here of arguments and impressions, not of conclusive demonstrations. There can be no definitive proof, one way or the other. Labour negotiations are subject to a variety of market forces which have far greater impact than unexpected pension fund deficits or surpluses. For example : the state of the economy, the employer's competitive position, the extent of unemployment in the industry. All these factors place pressure on both parties, and have a far greater impact on the total compensation package than unexpected changes in the value of the pension component. Thus it will never

be a totally provable proposition that unexpected pension events have a direct and measurable impact on the future size of the total compensation package (though it may well be possible for economists to devise tests of the proposition).

There is an analogy from the field of public finance : what is the initial incidence and what is the final resting place of a tax? The two may be very different. A tax imposed on a corporation may eventually flow through to the consumer or to the shareholder. In the pension context, we know very little about the time lag that occurs until investment risks and rewards get shared, and very little about the extent of that sharing.

FIGURE 3 -

The Nature of Pensions: Expanded Classification



Expanded Classification

At this stage, we can now expand the preliminary classification considered in Figure 2. Figure 3 now shows that pension rights can be divided (at least conceptually) between those that are liability-related and those that are asset-related. In practice, the combination of imprecise wording of plan texts, imprecise communications of benefits and intentions, and implicit expectations together confound purity of thought.

In the next Chapter, therefore, we consider the many ways in which pension agreements work in practice.

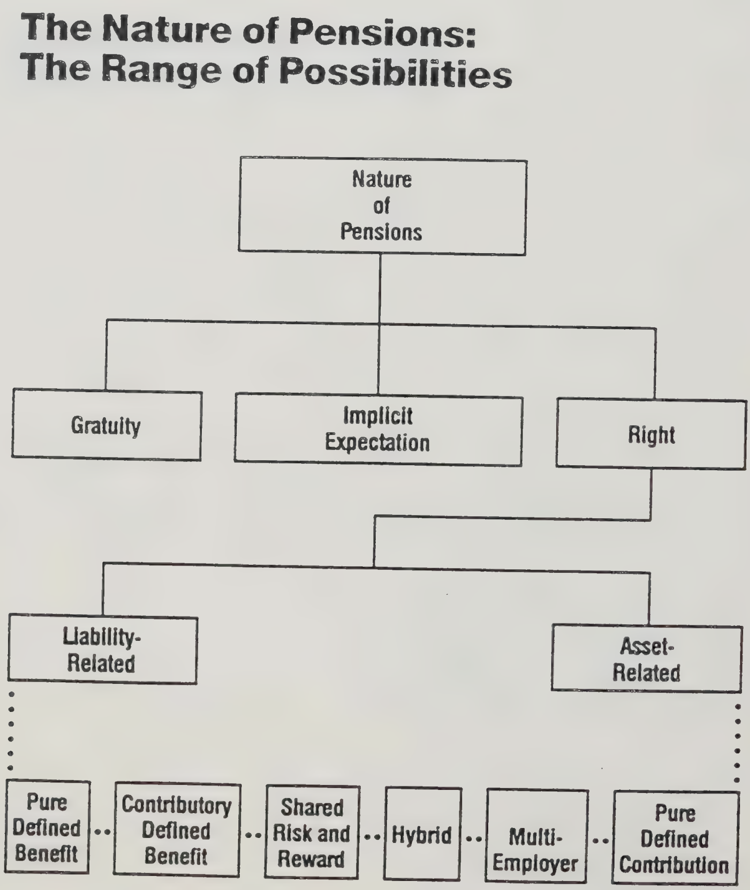
CHAPTER IV

EVERYTHING IN BETWEEN

The Range of Possibilities

Figure 4 fills in four points in the range between pure defined benefit pension plans and pure defined contribution plans. There are many examples of each of the four intermediate types. There may well be even more variants, but these additional variants are less common, and in any event the types described in this Chapter will suffice to illustrate the intermediate possibilities.

FIGURE 4 -



Remember that at this stage we are still discussing pensions as rights. In other words, these are the terms of the agreement, as written down. The complications of implicit expectations will later be overlaid on the basic framework developed in this Chapter.

1) Pure Defined Benefit

(a) Description of Pure Defined Benefit

As described in the previous Chapter, this type of plan defines a level of benefit that is unrelated to the investment performance of the pension fund. Employees do not make contributions towards paying for the benefits : the employer makes all required contributions.

These contributions are spread out over the working careers of the employees. For the most part, the contributions are made such a long time before each employee's retirement that contributions multiply in size through earning an investment return. Indeed, over the lifetime of a typical pension fund, out of every $100 paid in benefits, roughly $20 comes from contributions and $80 from investment returns.

Thus investment returns can be seen as the capital market's contribution towards meeting the cost of the benefits, and it is usually a very substantial contribution. The employer is, in a sense, the residual contributor, contributing whatever is not contributed by the capital market. The higher the capital market's contribution, the lower the employer's; the lower the fund's return, the higher the employer's contribution. All the investment risk and all the investment reward, at least in this pure example, accrue to the employer. The employer is the sole investment client for whose benefit the fund is being invested.

Surplus in such a fund means that the actuary has underestimated the capital market's contribution, and has consequently called for employer contributions

which in hindsight were too high. Had the actuary been able to forecast correctly the market's contribution (an impossible task for anybody, actuary or not), the employer's contributions would have been lower, and no surplus would have developed. Similarly, the converse of a surplus is a deficiency, and it arises from the opposite cause : the actuary has overestimated the capital market's contribution. The important point is that the employer's contributions are bound to be a variable, not a fixed, amount. Consequently the employer's current contribution rate, at any time, is unlikely to be a good measure of the wage-equivalent value of the pension benefit, except by accident.

(Incidentally, investment return assumptions can be made for many different purposes. There are at least three different assumptions that are relevant in any given situation. It is important to understand the differences between them. Rather than inserting the discussion here, where it would interrupt the flow of this chapter, the subject is discussed at the end of the chapter under the heading "A digression on assumptions, surplus and deficiency".)

(b) <u>Total Compensation Pre-Conditions for Pure Defined Benefit</u>

For this description of the pure defined benefit case to be the applicable model, it is necessary that employees accept that there is to be no benefit enhancement arising from unexpectedly favourable plan experience, or indeed any enhancement in any other aspect of total compensation arising from the same cause. The reciprocal condition is an acceptance by the employer that he alone bears the brunt of any unexpectedly unfavourable plan experience, and can neither terminate the plan nor expect to put the added cost of financing the benefits to the employees via future wage or other concessions.

If these conditions are not present, then this is not the type of pension agreement under consideration.

(c) <u>Governance Implications of Pure Defined Benefit</u>

In the purest form of the defined benefit pension agreement, under which (as

in Chapter III) the benefits are never less than fully funded, the employer is the sole investment client for whose benefit the fund is being invested. Employees have a claim against the fund, but the claim is limited to the defined benefit.

This is, in many respects, similar to the claim a bond-holder has against the assets of a corporation. However, bond-holders have added protection. First, they are entitled to corporate financial statements, so that they can review the degree to which their claim is covered from time to time. Second, to protect their claim on a day-to-day basis, they have covenants which impose constraints on management action.

The parallels, in a pension context, are for pension beneficiaries to be entitled to receive relevant financial information about the pension assets and liabilities, and to impose restrictions on the pension investment policy which the employer may adopt. The information requirement is easily satisfied; in practice, there is no generally accepted way to restrict the scope of investment policy in order to enhance benefit security.

The ultimate governance implication, therefore, even in the purest defined benefit case, is that while the employer is entitled to establish the roles of the players and to determine investment policy and structure, this freedom is limited by the need to secure the employee's benefits.

2) Contributory Defined Benefit

(a) Description of Contributory Defined Benefit

As in the previous example, this type of plan defines a level of benefit that is unrelated to the investment performance of the pension fund. The only difference here is that employees make fixed contributions towards the cost of the benefits : for example, 5% of their base pay less their contributions to the Canada or Quebec Pension Plans. Again, the employer undertakes the responsibility of contributing to the fund whatever amounts the actuary calls for, be they large or small, to ensure benefit security. (In some Canadian jurisdictions, the employer must be responsible for providing at least half the value of the benefit.) Thus the benefit is fixed; employee contributions are fixed; and the employer's contribution is variable.

From an economic perspective, this type of plan works exactly like the pure defined benefit plan, but employees tend to view it quite differently. Both perspectives are worth exploring.

The economist (and the employer) would observe that the employer is still guaranteeing the benefits, and still enjoys or suffers from the investment return, depending on whether it is high or low. The employee is unaffected by the return. In that sense, the employer is the economic beneficiary of the return, and the sole investment client. The only difference is that, for the same level of benefits, this plan costs the employer less than what we have called the pure defined benefit plan, because in this case the employee assists in meeting the cost of the benefits.

But the employee sees things differently. The employee makes a contribution - often unwillingly, especially in the case of younger employees, who have more pressing financial priorities than saving towards a distant retirement. Contributing towards the cost, the employee correctly realizes that his or her contributions form part of the base on which investment returns are earned.

At times, therefore, when investment returns are very high, the employee tends to feel a great resentment that the entire benefit of these returns accrues to the employer.

This resentment becomes all the stronger if the employee feels that the benefit level is in some sense inadequate; any unexpectedly high investment return, in the view of the employee, should be used to augment benefits.

It is no use telling the employee that the employer also suffers when there are unexpectedly low returns, and shelters the employee from the adverse consequences of those low returns; or that economic equity requires that risk and reward must accrue to the same party. These arguments are overwhelmed, in the mind of the employee, by a single principle : sharing the cost implies sharing the benefits from high investment returns, as far as the employee is concerned, regardless of the economics of the case. Employees feel entitled to "their share" of anything the actuary opines is surplus, because they feel that that share arose from their contributions.

Ultimately, the only way to resolve this is by reference to the nature of the total compensation agreement.

(b) <u>Total Compensation Pre-Conditions of Contributory Defined Benefit</u>

The need for clarity in defining total compensation is obvious in this case. For the contributory defined benefit model to apply, it must be clear that the benefit formula is what has been negotiated or imposed, as well as the employee contributions toward the benefit. The employer contracts to pay the balance required to meet the benefit; this balance is variable. For this model to apply, the investment return must neither enhance nor decrease the pension benefit or any other element of total compensation.

In fact, the total compensation pre-conditions are identical to those described in the "pure defined benefit" situation. But the fact of employee contributions muddies the waters. Some clarifying comments may therefore be worthwhile:

- The feeling that pension benefits are inadequate is out of place, in a total compensation context, because these benefits cannot be viewed in isolation. Either the rest of the package compensates for low pension benefits, or the entire package is inadequate - but the solution lies at the total compensation level.

- The employee's contribution does not, in this case, give rise to a right to a share of unexpectedly high investment earnings, any more than having a savings account with a bank gives a right to share in the bank's profit. The benefit is defined; that is all there is to it.

- What the employee's contribution achieves is a reduction in the amount the employer would otherwise have to contribute, for the given level of benefits. Thus, in valuing total compensation, it would be an overestimate to add the value of the pension benefit to the amount of the wage. The correct procedure would be to add to the wage:

  (a) the best estimate of the value of the pension benefit; minus
  (b) the value of employee contributions required.

To remove the confusion of employee contributions to a defined benefit plan, some sponsors in Canada's private sector are dividing their pension plans into two parts, a defined benefit part which is supported entirely by the employer's contributions, and a defined contribution part into which employee contributions go.

(c) <u>Governance Implications of Contributory Defined Benefit</u>

Essentially, the governance implications are the same as for the pure defined benefit agreement.

As with the prior case, the employer is entitled to make the arrangements for governance, limited by the need to secure the employees' benefits.

3) Shared Risk and Reward

(a) Description of Shared Risk and Reward

There are many variants of pension agreements under which investment risks and rewards are shared by the employer and the employees. The discussion in this section applies to all variants. For a logical development of the theme, this description focuses first on one specific variant.

In the two prior models (of pure defined benefit and contributory defined benefit agreements), the benefit was fixed and the employer's contribution varied. Now consider the case of a defined benefit plan under which both employer and employee contributions vary with the investment return.

The benefit remains fixed. The employer and the employees agree to share the cost of the benefits equally (or in some pre-determined ratio other than 50/50, although 50/50 is the predominant ratio). Based on the actuarial assumptions used, this establishes the initial level of both employer and employee contributions.

However, as investment returns are earned, both employer and employee contributions vary from their initial levels. Thus if returns are high, employee contributions are reduced as well as employer contributions; if returns are low, employees know that their contributions will have to go up, not just the employer's contributions.

As a variant, sometimes benefit levels may be increased in lieu of a reduction in employee contributions. A further variant is to notionally segregate a portion of the fund for retired employees, and to give them the benefit of high investment returns on the segregated portion by increasing the amounts paid to the retired employees. (This variant is discussed in greater detail in chapter VI.)

From an economic perspective, these are broadly equitable arrangements, because investment risk and reward accrue to the same party : in this case, the party is the employer and the employees, jointly. This arrangement leads logically to a joint investment client, with joint considerations of investment objectives and risk tolerances being relevant.

At this stage, it is necessary to recall that there are two other categories of members of the pension plan, apart from active employees : retired employees, and former employees with a vested claim.

In dealing with pure defined benefit plans and contributory defined benefit plans (at least where both employer and employees acknowledge a liability-related benefit concept), the employer is, in the first instance, the sole investment client, and the sole beneficiary of the investment return.

But now, the employer shares risks and rewards with the employees. Logically, it should be all the employees who are involved : current, former and retired. In principle, each group should participate in both risks and rewards, in proportion to their contribution to the base on which those risks and rewards accrue. It may be a difficult exercise to calculate those proportions, and sharing the risks (in particular) may be impossible if it is accepted that the pensions of former and retired employees can never be reduced; but the principle of including them all is quite clear.

(b) Total Compensation Pre-Conditions of Shared Risk and Reward

For the basic model of shared risk and reward to apply, employer and employees must agree that the value to be placed on the employer-provided portion of the pension plan consists of the following three parts:

(a) the value of the benefits, calculated on the basis of the actuarial assumptions; minus

(b) the value of employee contributions, calculated on the same basis; minus

(c) half the value of the surplus that will arise, if "best estimate" assumptions are more favourable than the actuarial assumptions.

Thus if experience exactly follows the actuarial assumptions, the employer-contributed value of the pension benefits is (a)-(b). If actual experience is more favourable than the actuarial assumptions, the value of the benefits is less than (a)-(b), so something further needs to be subtracted; this further amount is half the value of the surplus, since employer and employees share the surplus equally.

The same principles apply in the case of the variants to the basic model described. The idea is to price the benefits that will actually be received, less the value of the employee contributions toward that benefit.

What can never be proved is whether the parties endeavour, in subsequent negotiations, to secure for themselves the entire value of the surplus through changes in the other elements of total compensation. The reasons for this statement were discussed in Chapter III.

(c) <u>Governance Implications of Shared Risk and Reward</u>

The basic principle is simple. Those who participate in the investment risks and rewards should make the governance arrangements, their input being in proportion to their share of the risks and rewards.

Determining those proportions may be exceedingly difficult in any particular case. Conflicting claims may arise not only among current, former and retired employees, but also among younger and older current employees.

4) Hybrid

(a) Description of Hybrid

In each of the three previous categories, benefits were fixed according to a pre-defined formula, and investment uncertainty led to changes in contribution rates. The hybrid plans considered here are more complex, operating simultaneously with variable benefits and variable contributions.

In a typical plan of this nature, two elements are fixed:

- a defined benefit formula (which might, as before, be based on a unit, for each year of service, of 1.75% of best-five-year-average earnings, integrated with the benefits from the Canada and Quebec Pension Plans);

- a defined contribution formula for both the employer and the employees (which might, as before, be 5% of basic pay less the Canada or Quebec Pension Plan contribution, this level being contributed by each employee and being matched exactly by the employer).

The way in which the plan works is then as follows.

An account is established and maintained for each employee. This account is credited with the relevant contributions and the appropriate share of the fund's investment earnings - exactly as in the pure asset-related arrangement described in Chapter III.

At retirement, the pension which can be purchased by the amount in the employee's account is compared with the defined benefit formula, and the employee receives the greater of the two pensions. It is this "greater of the two" feature which introduces complications.

For those employees for whom the defined benefit formula produces a higher pension than the defined contribution formula, it is obvious that the defined

contributions are not enough to support the benefit. Therefore special additional contributions are necessary. These are estimated periodically on an individual basis, by an actuary, and typically the employer undertakes to pay these special additional amounts.

At first glance, this arrangement appears to be economically inequitable. If investment returns are high, the defined contribution component should be dominant, and employees get the benefit of higher pensions. If investment returns are low, the defined benefit component should be dominant; this protects the employees, and it is the employer who suffers the impact of low returns through having to make special additional contributions.

With risk and reward accruing to different parties, how can a sensible investment policy be formulated? Surely the employees, with all reward but no risk, would want the most aggressive investment policy possible, while the employer, with all risk but no reward, would want the most cautious investment policy possible.

In practice, there are three ways in which the situation can be resolved.

The first way is to divide the employees, at any point in time, into three groups:

(a) Those for whom the defined contribution accumulation far outweighs the value of the defined benefit formula. For all practical purposes, these employees are in a defined contribution arrangement.

(b) Those for whom the defined contribution accumulation is far below the value of the defined benefit formula. For all practical purposes, these employees are in a defined benefit arrangement.

(c) Those for whom the two formulas have roughly equal values. For these employees, they do genuinely garner the investment reward while the employer is exposed to the investment risk.

For each of categories (a) and (b), the investment client is easily defined : each employee in (a) is an individual client, while the employer is the sole client in (b). Category (c) temporarily defies rational classification; but over time, those in category (c) will eventually move to either (a) or (b), depending on investment returns and salary escalation. (Of course, those in categories (a) and (b) can also move temporarily into (c) : nothing remains constant!)

In short, this method leads to very difficult, and changing, classifications of who exactly is the investment client, i.e. for whom exactly the fund is being managed. And again, economic equity requires some way of arranging that retired and former employees receive a fair share of the investment return.

A second way to control these complications is through the plan design. For example, it might be the case that the plan is really meant to be a defined contribution plan for most employees. In that case, the defined benefit will be specified at a sufficiently low level that it becomes a floor, operating only in a few cases and only when investment returns have been very low. If this is done, most of the employees will be in category (a), and categories (b) and (c) will simply constitute a minor nuisance.

A third solution is to go directly to the governance arrangements, and specify that the plan will operate as if it were a defined benefit arrangement, as far as investment objectives and risk tolerance are concerned; that is, both the objectives and the tolerances are those of the employer. Then the employer forgoes any investment reward in excess of the defined benefit claim. Under this solution, in exchange for receiving the investment reward, the employees do not participate in making the governance arrangements, and the employer acts as the sole investment client.

(b) Total Compensation Pre-Conditions of Hybrid

For a clear understanding of how these hybrid plans fit into the total compensation picture, the governance arrangements must be specified in advance,

because they will affect the investment policy and therefore the best estimate of the future investment return and the value of the benefits that will emerge from the plan's terms.

Once that is clarified, the value of the employer-contributed portion of the pension benefits is equal to the best estimate of the value of the benefits that will actually be paid, less the amount of employee contributions. Surplus cannot arise; it translates automatically and immediately into higher benefits.

As before, what can never be proved is whether the parties endeavour, in subsequent negotiations, to defeat the description of how the pension agreement operates, through changes in the other elements of total compensation.

(c) Governance Implications of Hybrid

Depending on what is agreed in advance, the arrangements for governance of the pension fund ought to be established either by the employer alone (with the limitations previously outlined for other models), or by the employer and the various beneficiaries together, acting as the joint investment client.

5) <u>Multi-Employer</u>

(a) <u>Description of Multi-Employer</u>

These plans arise, often in the construction industry, through collective bargaining between a union and an association of employers, each employer temporarily hiring members of the union for work on projects. (This model does <u>not</u> apply to groups of employers, each with their own direct employees, who for convenience adopt a common pension plan. In those cases, each set of employer/employees pension arrangements constitutes a separate situation, each to be considered in the context of the separate employer/employees total compensation arrangements.)

Under the multi-employer plans considered here, each employer's contribution to a pension fund amounts to $X per hour worked by each union employee (for example, $1.50 per hour). The employees then agree, through their union, that benefits will be drawn from the pension fund, not on a defined contribution basis, but on the basis of a uniform benefit formula (for example, a pension of $10 per month for each 1,500 hours of contributory service). The uniform benefit formula is decided on the advice of an actuary, on the grounds that that level of benefit is likely to be supportable by the fund and its prospective contributions.

If, over a period of time, investment returns are higher than anticipated, the benefit formula can be increased. Equally, if investment returns are lower than anticipated, the benefit formula must be decreased. Each employer's contribution does not change (unless, of course, the collective bargaining agreement is re-negotiated).

(b) <u>Total Compensation Pre-Conditions of Multi-Employer</u>

From each employer's point of view, such a multi-employer arrangement amounts to a defined contribution plan. An employer neither gains nor loses from the

investment return. In this situation, the employer negotiates a total compensation package with a clear statement of the dollars and cents that each hour of labour is worth.

(c) Governance Implications of Multi-Employer

From an employee's point of view, however, a multi-employer pension plan is not a pure defined contribution arrangement, as described in Chapter III. Under that kind of arrangement, each employee separately takes his or her own investment risk and garners the corresponding investment reward. But in a multi-employer plan, by the mutual agreement to transform the pension into a uniform benefit formula, it is the group of employees as a whole who gain or lose from the investment return.

Thus the group of employees becomes the joint client for whom investments are made. Once again, the group of employees logically includes retired and former members of the union.

6) Pure Defined Contribution

(a) Description of Pure Defined Contribution

This type of arrangement was fully described at the start of Chapter III. The employer's obligation is solely to make the required contributions. Each employee's pension varies with the investment return earned on his or her separate account. Logically, each employee, individually, is an investment client in his or her own right, although in practice the number of investment choices offered to the employees may be severely limited.

By definition, there cannot be investment-related surplus in such an arrangement, because the entire investment return must be allocated among the employees. There can, however, be surplus from other sources. For example, if an employee's membership is terminated before the account is fully vested in the employee, a proportion of the account is forfeited. It does not form a part of any other employee's account; it is therefore an asset with no corresponding liability, i.e. surplus; and it arose because the employer made contributions for the employee which, in retrospect, were not required. Consequently these amounts usually revert to the employer.

(b) Total Compensation Pre-Conditions of Pure Defined Contribution

This type of arrangement is consistent with a total compensation package focusing on a clear statement of the total dollars and cents paid for an employee's services.

(c) Governance Implications of Pure Defined Contribution

The employees should each have some input into the governance arrangements. In practice, an employee-elected committee may be a practical substitute.

Review

In this Chapter we have reviewed a variety of pension arrangements found in practice, on the basis of the rights described in the relevant plan texts. In each case we have focused on determining who gains from high investment returns, and who loses from low investment returns. The answer is by no means obvious, because each case must be viewed in the context of how total compensation is determined. Nevertheless, once an answer is found, those entitled to rewards also take their proportionate share of the risks. In these circumstances, those parties are logically the clients for whom investments are made, and it is their investment objectives and their risk tolerances which logically should form the framework of the investment policy that is developed.

In some cases, risk and reward may not go together, or parties may feel that they are treated unfairly. These situations are very difficult to resolve sensibly. It may be that the only satisfactory solution is to move to a different set of arrangements. Fortunately, as this Chapter has shown, there are many to choose from.

A Digression on Assumptions, Surplus and Deficiency

Since nobody can predict how the future will evolve, it is necessary to make assumptions, if one wishes to gauge the impact of some financial decision or to estimate the value of some future benefit. In this section, we explore the investment return assumptions that are relevant in defined benefit pension plans.

There are at least three different investment return assumptions that may be involved. Their relevance is most easily explained through an example that is a simplified model of real life.

Suppose that a person named Pat is a member of a defined benefit pension plan, and in respect of this year's service, Pat will receive a lump sum of $1,000 in 20 years' time. (Of course, usually the benefit is an annuity rather than a lump sum.)

One obvious question is : what is the benefit worth?

Suppose it is possible to purchase a stripped default-free bond which matures in 20 years and pays $1,000 at that time, at a yield of 10% per annum. Then the price of this bond is $149 today. The employer could purchase this bond and be sure of paying Pat the right amount at the right time. Similarly, if Pat were given $149 today and invested it in this bond, Pat would be certain to have $1,000 20 years from now. Either way, the certainty of the match means that $149 is a fair present value to place on the benefit. The value is arrived at by discounting the benefit ($1,000) at the rate of return (10% per annum) offered by a perfectly matched investment.

Next, suppose the employer hopes to secure a higher return than 10% by pursuing a more aggressive investment strategy, involving some commitment to common stocks. Suppose the employer hopes to capture an average annual return of 12% by doing this. How much should the employer set aside today, in order to have $1,000 accumulated after 20 years? Answer : $104.

Given the aggressive nature of the investment policy, would it be fair to say that 12% is the appropriate discount rate, and $104 the fair present value of the benefit? We suggest that the answer is "no". The fair value should not depend on what results from a risky investment policy (risky in the sense that there is no certainty that $1,000 will actually be accumulated after 20 years). The simplest way to understand why this is so is to note that the benefit is the same ($1,000) regardless of the investment policy followed. Indeed, the benefit is still $1,000 even if there is no investment policy at all and no money to invest at all, as would be the case if the benefit is unfunded. The benefit, in other words, has a value regardless of the funding and investment arrangements; the only way to place a value on it with certainty is to discount it at the risk-free investment return.

The risk-free return determines the <u>value</u> of the benefit to Pat; the <u>cost</u> of the benefit to the employer is determined by the eventual return actually earned by the fund, and in turn that depends on the investment policy. Thus the value is $149, although the employer may be able to set aside only $104 if the fund can actually earn 12% per annum.

However, the stock policy is not guaranteed to produce 12%. It may not even produce the 10% available on the bond. Perhaps, 20 years from now, it may only have produced 8% per annum, in which case the employer should have set aside $215 today.

When the actuary advises on how much to set aside today, the uncertainty of the return usually makes both the actuary and the employer cautious. They tend to play it safe. They may eventually decide that it is sensible to set aside $215 today, because that will be sufficient to accumulate to $1,000 even if the fund only earns 8% per annum. This 8% figure thus becomes the (cautious) actuarial assumption on the basis of which the employer makes contributions to the fund.

So there are three investment returns which are relevant in this example:

- 10% is the risk-free return;
- 12% is the return expected to flow from the investment policy adopted;
- 8% is the cautious actuarial assumption on which funding is based.

Why 8%? Why not 9% or 7%? There is no right or wrong answer. The degree of caution that the employer wishes to adopt is what determines the actuarial assumption. (And the fact that there <u>is</u> caution implies that the funding contribution is <u>not</u> the same as the value of the benefit.)

If the fund earns more than 8%, the actuary reports a surplus. Similarly, a return below 8% results in a reported deficiency. Surplus and deficiency are all measured relative to the assumption made - which, as we have seen, has a degree of arbitrariness to it.

Therefore, whether or not a surplus exists is a matter of opinion, not a matter of fact. While actuarial reports frequently contain statements such as, "The fund has a surplus of $5 million", and the employer, the employees and government supervisory authorities all instantly fasten on the $5 million figure as a hard number, in fact the statement must correctly be understood in the context of the report and its assumptions. The correct interpretation (and it is unfortunately a mouthful) is along the following lines : "If every one of my assumptions is realized exactly, and the employer continues to contribute according to the formula I set out in my last report, then in my opinion there will be money left over in the fund when the last beneficiary dies, and the present value of that sum of money is $5 million".

If the actuary's assumptions about the future were to change, or the employer were to change the contribution rate, the actuary's opinion about the surplus would change immediately - and might even change so much that the actuary's new opinion is that there is a deficiency!

All estimates of surplus during the lifetime of an on-going defined benefit pension plan are precisely that : estimates. Only when a plan is wound up can the existence of a surplus be confirmed or denied. If benefit payments run out before the fund does, there is a surplus; if the fund runs out before benefit payments do, there is a deficiency.

For convenience, we have referred only to investment risk and reward. In fact, there are many sources of uncertainty, and each produces its own risk and reward. Examples of other sources of uncertainty are : rates at which employees' pay increases; mortality rates; the number of employees leaving the plan; the average age of the work force. Because these elements are uncertain, the actuary has to make assumptions about them; and since nobody can predict the future, the assumptions are bound to be wrong. In order to protect against unpleasant surprises, the actuary's tendency is to make cautious assumptions : the greater the uncertainty, the more cautious the assumption. In aggregate, therefore, more often than not the plan's experience should be better than the actuary assumed, leading to surplus more often than deficiencies.

In practice, somebody has to underwrite every one of these uncertain elements. They invariably go together, because all sources of surplus or deficiency are aggregated in a defined benefit plan before contributions are adjusted. We have referred only to investment risk and reward, partly because investment arrangements are the focus of the Task Force's mandate, and partly because investments are by far the most visible and most important source of good or bad news.

But an important conclusion of this analysis is that there are two distinct reasons for investment surplus.

One source is that actuaries inevitably cannot predict what the future risk-free rate of return will be, just as they cannot predict the other uncertain elements mentioned above. Errors in all these actuarial estimates cause the cost of defined pension benefits to be different from what the employer or the

employees anticipated. This portion of investment surplus (or deficit) is no different from the surplus (or deficit) arising from other actuarial assumptions. It means that the "best estimate" of the worth of the benefits has been miscalculated. The disposition of this portion of the surplus should be consistent with the total compensation context. For example, if it has been agreed that employer and employees should share the cost of the pension benefits, then this portion of the surplus (or deficit) should also be shared. But unless there is a clear agreement, in advance, as to how to deal with the inevitable uncertainty as to the value of defined pension benefits, the disposition of surplus from this source is bound to be a contentious issue.

The second source of investment surplus is quite different. It arises even if the actuary can predict the risk-free rate. Its cause is that somebody selects a risky investment policy. Any surplus (or deficit) arising from such a selection really represents the capital market's reward (or premium) for taking investment risk. It should belong to whoever takes the risk.

Finally, we turn to one other issue which is frequently misunderstood.

We have pointed out that actuaries usually make cautious assumptions in the face of uncertainty, and this should lead to surplus more often than to deficiencies. Employees often feel that this means that employers take little risk. Such a conclusion is quite untrue. An analogy might help to explain why.

Suppose two people, X and Y, play a game. They toss an unbiased coin. If it comes down heads, X wins $50 from Y; if it comes down tails, Y wins $50 from X. The game is fair, in the sense that neither party is favoured over the other. But it is also risky, because after a single toss, either party could be $50 out of pocket.

Now suppose X is a cautious character, who sets aside $50 in advance of the coin toss, just in case it comes down tails. Having set aside the $50, X cannot lose any further money : a head causes X to get back the $50 set aside, plus a further $50 from Y, while a tail causes no further loss than the $50

set aside. That does not mean the game is not risky; it just means that X is willing to pay for a potential loss in advance. The game has not changed to one which X cannot lose.

This is very similar to the employer's position in a defined benefit plan. He can ask his actuary to make "best estimate" actuarial assumptions, in which case the employer should have an equal chance of ending up with a surplus or a deficiency. Or he can (like X) be cautious, setting aside (i.e. contributing) more than he needs to. In the long term, the employer should get back his extra contributions. That does not mean that the employer takes scarcely any risk. It really means that he pays for the risk in advance, so if the risk does not materialize, he gets the payment back. Where the confusion arises is that the refund of the risk payment is labelled "surplus" when the risk does not materialize!

Another lesson to be learnt from this simple example is that the employer's initial level of contribution to a defined benefit plan is usually an over-estimate of what the benefits are worth, if that contribution is based on cautious assumptions. (And so might employee contributions be, if there is a clear agreement that employees should contribute some specified proportion of the value of the benefits.) That is why, in all the discussions as to the value of the benefits, we have stressed, in this paper, that the value should be based on "best estimate" actuarial assumptions (however fallible), rather than on the deliberately cautious assumptions which underlie most funding decisions.

CHAPTER V

WIND-UP AND ULTIMATE BENEFITS

Different Types of Rights

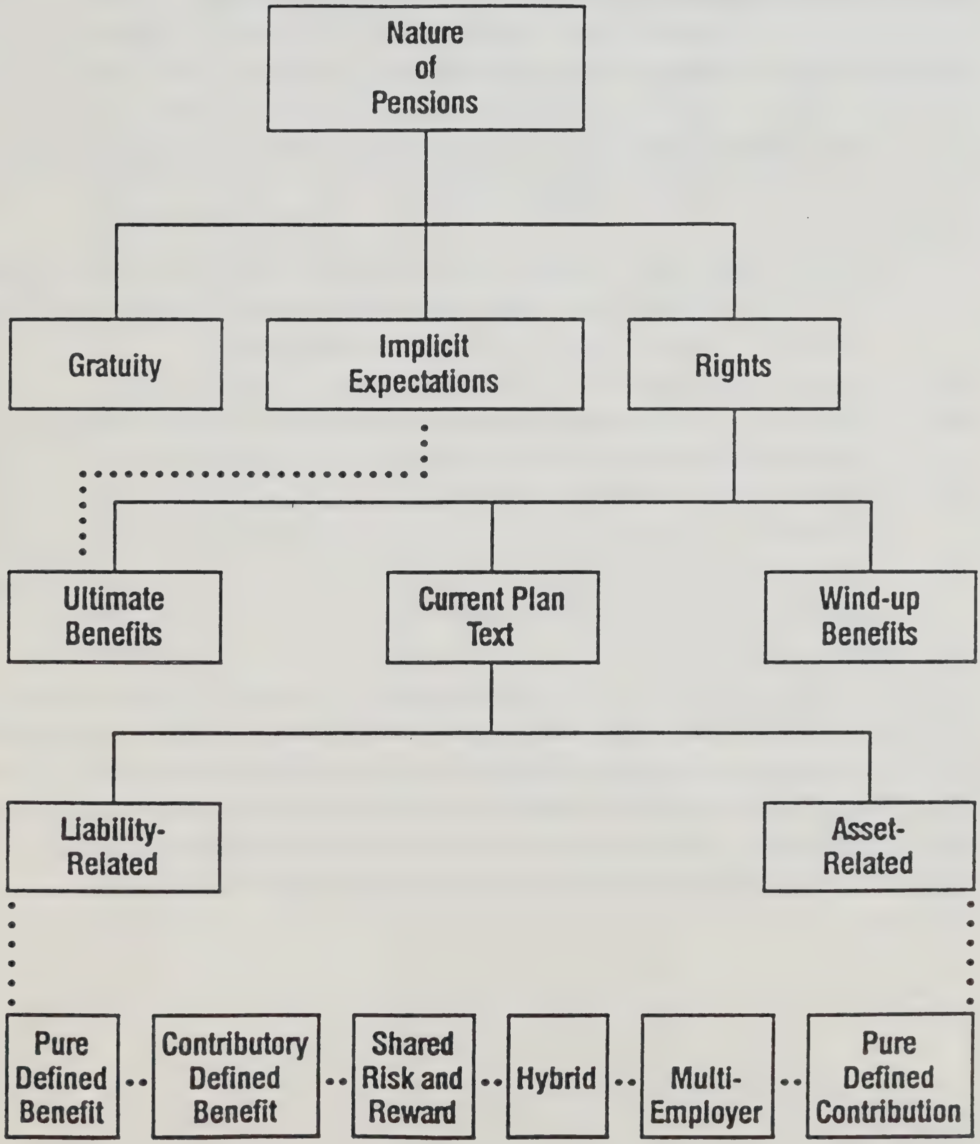
Up to now, we have been discussing the rights of employees as they are documented in a pension plan text. But pension plans are dynamic entities. There are virtually no plans in Canada that have not been amended at some stage of their existence. And sometimes pension plans are wound up.

So, in Figure 4, the "Right" box must be replaced by one saying "Rights", to indicate that there are different types of rights. Everything discussed earlier is in the context of rights under the current version of the plan text. In this Chapter, we will also discuss employee rights in a plan wind-up, as well as the improved rights that usually emerge as the benefits in an on-going plan are increased from time to time, and ultimately employee pensions are based, not on the terms of the plan today, but on the terms that will be in force when the employees collect their benefits.

These notions are incorporated in Figure 5. Note, also, the dotted line connecting the box now labelled "Implicit Expectations" with the new box labelled "Ultimate Benefits". This reflects the fact that employees often expect their pension plans to be dynamic entities, and are disappointed if there is no change in the benefits under circumstances which prompt employees to expect change.

FIGURE 5 -

The Nature of Pensions: The Final Classification



Wind-Up Benefits

The employer's right to wind up a pension plan, and the consequences of a wind-up, are governed by the terms of the plan, the terms of any bargaining agreement covering the plan, and the law. Sometimes these combine with great precision, and everything proceeds according to pre-arranged specifications. More often than not, the employer has great discretion as to the timing of a wind-up and the subsequent disposition of the fund's assets.

In general, these features are associated with a wind-up:

- Benefit accruals cease. In other words, service after the wind-up date attracts no further pension.

- If the plan text specified that benefits would be based on final-average salaries, they are re-calculated on the basis of each employee's salary history up to the wind-up date.

- If there is not enough money in the fund to pay for wind-up benefits, the employer remains liable to make up the deficiency (under Ontario's legislation), but this provision may be of little value to employees if the employer is bankrupt. However, in the latter case Ontario's Pension Benefits Guarantee Fund steps in with certain minimum guarantees.

Each of the six types of pension arrangements discussed in Chapter IV is affected in a different way when the plan is wound up. In general, the disruption to employee expectations increases, as one moves from defined contribution to defined benefit arrangements. Tracing the details is a very complex exercise, and how notions of total compensation are affected would be virtually impossible to classify. All that can be said, in general, is the following:

- Re-calculating final-average projected benefits on the basis of current salaries usually results in a substantial reduction in the plan liabilities. This is a source of potentially large wind-up surplus (or reduced deficit). Final-average defined benefits are funded on the basis of projected salaries; freezing salaries for benefit calculation purposes is considered by employees to be an abrupt change in the rules of the game, and if employees are not equivalently compensated in some way for the reduction in benefits (such as through the award of past service benefits in a new plan), they are angered by what they see as a breach of faith. (Some economists consider this a retroactive amendment in the total compensation agreement imposed by one party on the other, and therefore unfair. Others point out that neither future service no future salary increases have been earned at any point in time, and therefore neither is relevant in assessing an employee's claim under the total compensation agreement at any time.)

- In some cases, the plan text grants all surplus on a wind-up to the beneficiaries. If both employer and employees have agreed that their pension plan genuinely represents a liability-related agreement, this could produce benefits for the employees beyond their initial expectations.

- The possibility that a defined benefit plan is less than fully funded is a real one. Depending on the legal extent to which the employer remains liable for the shortfall, and the employer's financial state, pension benefits on a wind-up could be lower than what the plan specifies. It is this possibility which gives employees a legitimate interest in the investment returns and arrangements in any defined benefit plan which is not yet fully funded, no matter how clear the plan agreement and the total compensation agreement may be.

Ultimate Benefits

What makes employees expect to retire on more generous terms than the pension agreement currently provides? Typically, these are the factors involved:

- The expectation that the plan and its benefits will continually be improved over time.
- External factors which affect the interpretation of the agreement. Among these might be the fact of a negotiated total compensation package, as well as legal precedents, such as the application of trust law to pension contracts.

It is worth examining each of these factors separately.

Employee Expectations

First, employees are conscious of how their plan has changed in the past, and usually the employer wants the employees to be aware of past improvements. Indeed, communications from the employer often stress this feature, maintaining that the plan will be reviewed periodically to ensure that its benefits remain competitive. The combination of communications and observations then create expectations that benefit improvements will continue into the future.

Sometimes plan design alone creates this type of expectation. For example, it is commonly accepted that career-average benefits are not likely to prove adequate in an inflationary environment; members of career-average plans therefore tend to assume that their benefits for past service will periodically be increased, so that they will retire on something closer to a final-average formula. With less certainty, employees also expect that ad hoc increases will be awarded to retirees in inflationary times, in partial recompense for the impact of inflation on a fixed pension.

In addition, employees may be aware of an employer implicitly pre-funding potential future benefit improvements, by the device of using a particularly cautious set of actuarial assumptions.

Other observations are more subtle. Even in what appears to be a pure defined contribution plan, several years of poor returns from the capital market, or perhaps one year of extremely poor returns, may well cause employees and retirees to exert moral suasion on the employer to augment the benefits. Similarly in a defined benefit plan, if investment returns are extreme, whether good or bad, this may well influence negotiations to change the benefit formula.

In short, there are many ways in which employees observe the evolution of their plan and its benefits, and implicitly conclude that benefit improvements will be made. Theoretically, a clearly stated total compensation package would either support or deny these expectations definitively; but clear statement is the exception rather than the rule.

External Factors

Next, if terms of employment are the subject of bargaining between employer and employees, and if in these negotiations both parties stress the concept of negotiating a total compensation package with a value determined as precisely as possible, then employees have considerable control over deciding how much the employer contributes to the pension plan. In this context, implicit expectations of benefit improvements simply reflect a willingness on the part of the employees to divert increasing dollar amounts of their total compensation package into the pension fund.

Even when the negotiations are not so clear-cut in their intent, employees still tend to expect that their pension accruals will keep pace with their direct pay. If the pension plan is not already stated in final-average terms, this implies plan amendments to improve the benefits.

Another factor, in this context, is the way in which employers communicate the value of their pension benefits to employees. In annual statements addressed to each employee, notifying the employee about the amount of benefit accrued to date under the plan, the employer often states that the pension benefits are worth X% of direct pay, even if the plan itself is represented to be a defined benefit plan. It is then natural for the employee to interpret this statement as meaning that the employer is actually contributing X% of payroll into the pension fund, and that those contributions will continue in the future, benefits being improved if surplus develops.

The last of the earlier identified causes of implicit expectations is the legal environment.

As described in this discussion paper, the pension fund is a means of financing and securing an on-going economic exchange between employer and employees. The legal framework involved is that of a trust fund. In fact, trusts are extremely flexible legal instruments, easily able to cope with all the models described in this paper. But considerations of social policy - specifically, the possibility of excessive tax deferment - caused the Department of National Revenue to drive the pension trust framework into a straitjacket, requiring (until the mid-1950s) wording to the effect that all contributions are irrevocably made for the benefit of employees. Subsequently, many employers have established their pension funds using similar wording, without realizing how extremely inappropriate the wording might be.

Traditionally, a testamentary trust is established under a will, with a specified amount of capital which is irrevocably committed for the beneficiaries of the trust. But under the pure defined benefit plan (for example) the employer's periodic contributions represent interim estimates of the value of the promised benefits. They are not meant to represent irrevocable contributions made solely for the benefit of the employees. Indeed, in a pure defined benefit plan any surplus reverts to the employer, making the employer a potential beneficiary too. Clearly, then, the straitjacketed version of the pension trust does not reflect the beneficial interest of the employer as well as the employees; the document is out of line with the economics of the situation.

Should there be a dispute between employer and employees, courts have no choice other than to base their judgements on an interpretation of the relevant documents. If these documents are inconsistent with the implicit understanding under which the pension agreement and the total compensation agreement were formulated, then the documentation itself gives rise to employee expectations which go beyond what the employer intended.

Clearly, it is impossible to over-stress the importance of accurate initial documentation, as well as of subsequent communication between employer and employees.

CHAPTER VI

GOVERNANCE AND OTHER ISSUES

Fundamental Principle

The models developed in the earlier chapters, and the concepts explained in them, can be used as the basis for discussing a number of issues. If there is one fundamental, overriding principle, it is this : all pension-related (and compensation-related) issues should be resolved in an environment of clear communication, so that all the parties involved understand the nature of the pension agreement, the related issues, their solutions, their costs, and how the costs are to be allocated among the parties.

Governance : Who Decides?

As stated in the Preface, unless we know who has a beneficial interest in the investment return of the pension fund, we do not have a context in which to decide what investment arrangements are sensible.

The analysis in this paper shows that it is the total compensation agreement that indicates which model of the pension agreement applies, and each model has its own implications for governance.

It is unfortunate that, in many cases, neither agreement has any definite philosophical underpinning. This makes it extremely difficult for the parties to agree, in retrospect, on what is the nature of their agreement - especially because different natures are now seen to have such important consequences.

For we have seen that, depending on how an agreement is interpreted, the justifiable controller of the governance arrangements might be the employer; the employer and the employees, jointly; the employer and individual employees; the employees, jointly; and the employees as individuals. Even where the employer is justifiably in control, the employees have a legitimate interest in the governance arrangements because of the need to secure their benefits. How this interest is best represented is a problem which has, as yet, no uniformly accepted solution.

However difficult the question, it simply must be resolved before sensible investment arrangements can be set up, because those arrangements should reflect the objectives and tolerances of the people affected by the investment results.

Two practical observations might be helpful.

First, in this paper we have been discussing rights. But for most employees, perceptions are as important as rights. And in particular, in cases where risks and rewards are shared, the whole discussion moves from the legal to the political arena : how do you make "equitable" arrangements, remembering that equity is in the eye of the beholder?

Second, it is very important to get the job done well. An imperfect system can work well with good people, whereas a perfect system can fail with poorly-operating people. The quality of the people responsible for governance cannot be underestimated.

Which Employees : Active, Former or Retired?

Another theme that emerges is that it is not enough simply to refer to "employees". Active employees usually have the best chance of seeing that their interests are taken into account; sometimes arrangements are made for the interests of retired employees to be represented; but hardly ever, if at all, are former employees represented when pension issues are discussed.

Yet we have seen that, depending on the circumstances, retired and former employees can have legitimate interests in the on-going investment returns earned by the pension fund.

Which Active Employees : Older or Younger?

While the dichotomy of interests between older and younger employees has not been explicitly referred to, it is often a factor in pension-related issues, for two reasons, one psychological and one financial.

The psychological reason is that older employees tend to be more conscious of the imminence of retirement and the cessation of the pay-cheque, and therefore more appreciative of pension benefits and the need to save for them, or at any rate to sacrifice direct pay for them. The same arrangements may therefore not find equal approval in the eyes of older and younger employees.

The financial reason is that, the longer a given sum is invested, the higher the pension it secures. Thus the same $100 set aside for a 25-year-old and for a 55-year-old will buy a higher pension (both in nominal and in real terms) for the 25-year-old. Similarly, the cost of buying a $100 annual pension is higher for the 55-year-old than for the 25-year-old.

Consequently older employees tend to prefer equality of benefit, while younger employees tend to prefer equality of contribution. And the difference is not trivial : ultimately it could imply the difference between a liability-related pension arrangement and an asset-related pension arrangement.

Up to now, we have referred to active employees as a homogeneous group, with a particular value to place on their benefits. But the reality is that, depending on the form of the pension agreement, cross-subsidies between older and younger employees are frequently the case.

<u>Trends : Clarifying and Sharing</u>

While there are no statistics readily available to draw upon, observation suggests that there may be some trends developing, aimed at resolving some of the confusion and perceived inequities inherent in the plan design of some pension arrangements.

One such example was mentioned in Chapter IV : dividing a pension plan into two parts, so that the defined benefit part is supported entirely by the employer's contributions, and employee contributions go entirely into a defined contribution part. This construct is an attempt to cool the anger felt by employees when high investment returns earned on employee contributions are used for the purpose of reducing the employer's contributions, rather than to enhance the employee's benefits.

Another example deals with the perceived relationship between inflation protection and investment returns. It is a common perception among employees (not always true in fact) that high inflation leads to high investment returns, and that the fair course of action is for the employer to use those high inflation-generated returns to augment benefits for retirees, who are most seriously affected by inflation.

One way of using this perception constructively is to set aside a special sub-fund for retirees. Into this fund goes, at retirement, the value of the employee's pension, calculated using an investment return of 3% (or whatever figure represents the employer's accepted notion of a real rate of return). To the extent the sub-fund earns more than 3%, the excess is used to increase pensions being paid. Thus the inflation protection being paid reflects the investment return rather than the actual rate of inflation, but if the employees' perception is true, then the two numbers will be close together. Of course there are complications : for example, what happens when the sub-fund earns less than 3%, and who meets the higher cost implicit in valuing pensions at an assumed return of 3%? Once these questions are clearly answered, though, the arrangement works cleanly, and the benefit can be priced in the marketplace. Moreover, the example is instructive. It converts what is, up to retirement, a defined benefit plan into what is, after retirement, a multi-participant plan operating similarly to the multi-employer type described in Chapter IV. In so doing, it transfers all post-retirement interest in investment earnings to the retirees as a group - and it gets rid of a source of perceived inequity, as far as the employees are concerned.

Both these examples deal with clarifying issues that may be misunderstood and cause resentment.

Another approach, more apparent in the public than in the private sector, is to move to the concept of shared risk and reward. This makes a reality of the familiar employee idea (which is pervasive, although frequently wrong) that employee contributions are matched by the employer; but in this case both move up or down together. This also leads naturally to the idea of sharing the cost of benefit improvements, and of joint responsibility for the governance arrangements.

Government Initiatives

In Ontario and in other Canadian jurisdictions, legislation and regulations have either recently been amended or are the subject of proposed amendments. Some of these amendments are relevant to the issues discussed in this paper.

- Ontario has legislated that members of a pension plan have the right to establish an advisory committee, but the law does not extend to giving members any say in making governance arrangements for the fund. The analysis in this paper leads to the conclusion that members should always have some rights in making these arrangements, but the rights should vary from case to case.

- Through the mandate given to a separate task force, Ontario has clearly linked the existence of surplus to the perceived need for inflation-proofed benefits. This rides roughshod over several of the principles developed in this paper, for example:

  - Whether or not pension benefits are adequate cannot be viewed in isolation, but must be considered in the context of total compensation.

  - Surplus calculated on the basis of actuarial assumptions is a function of those assumptions; it has no reality on its own.

  - The equitable disposition of pension surplus requires an interpretation of the total compensation agreement.

  - Investment surplus, in particular, can arise both from an underestimate of the risk-free return supplied by the capital market, as well as from taking investment risk. The equitable disposition of pension surplus might require different treatment of these two sources of investment surplus.

- Many different forms of pension agreement are feasible; no one linkage of surplus to benefit levels can possibly satisfy them all equitably.

- Ontario is drafting a new set of pension fund investment regulations. While no exposure draft of the actual wording is publicly available for study as this discussion paper is being written, the intention is to deal with issues such as the definition of investment prudence, the statement of the fund's investment policy, and control over the voting rights arising from fund investments. All these issues are part of a fund's governance arrangements. This suggests that uniform rules (for example in connection with voting rights) might not be appropriate. The analysis in this paper also suggests that the operative definition of investment prudence should be so stated as to apply clearly to the specific context of pension funds, rather than the more general (and often inappropriate) context of trust funds as a whole.

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